Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A lapping apparatus for lapping a work having a pre-machined surface, comprising:

a lapping film which includes a thin substrate having a surface provided with abrasive grains;

a shoe disposed at a back surface side of the lapping film;

a shoe driving unit which drives the shoe toward the work in order to press the abrasive-grained surface of the lapping film to the pre-machined surface of the work;

a rotational driving unit which drives the work rotationally;

a detecting unit which detects a rotational ~~the~~ position of the ~~rotating~~ work in a ~~the~~ rotating direction thereof; and

a controlling unit which controls the pressing force of the shoe driving unit so as to drive the shoe correspondingly to the position of the work in the rotating direction during machining.

2. (Original) The lapping apparatus of claim 1,

wherein the pre-machined surface of the work is formed with an open holed portion,

the shoe comprises: a first shoe which presses the abrasive-grained surface of the lapping film to the pre-machined surface; and a second shoe which presses the abrasive-grained surface of the lapping film to a mouth base of the holed portion,

the shoe driving unit drives the second shoe between an operative position where the second shoe is pressed to the mouth base of the holed portion and an inoperative position where the second shoe is separated away from the mouth base of the holed portion,

the detecting unit detects the position of the holed portion of the rotating work,

the controlling unit controls an operation of the shoe driving unit so as to drive the second shoe toward the operative position or the inoperative position correspondingly to the position of the holed portion during machining, and

the lapping to be conducted by pressing the lapping film to the rotating work by the second shoe is delimited to the vicinity of the mouth base of the holed portion.

3. (Original) The lapping apparatus of claim 2,

wherein the first shoe comprises a hard shoe and the second shoe comprises a soft shoe.

4. (Original) The lapping apparatus of claim 2,

wherein the holed portion is a lubricant hole.

5. (Original) The lapping apparatus of claim 1,

wherein the pre-machined surface of the work is formed with an open holed portion, and

the shoe includes a first shoe member constituting a hard shoe and a second shoe member constituting a soft shoe, the second shoe member being arranged at a location pressing the lapping film to a mouth base of the holed portion.

6. (Cancelled)

7. (Original) The lapping apparatus of claim 1,

wherein the pre-machined surface of the work is in a cross-sectionally non-circular arcuate shape,

the lapping apparatus further comprises an oscillation unit which applies oscillation along an axial direction of the work, to at least one of the work and the lapping film, and

the controlling unit variably controls at least one of a shoe pressing force, a work rotational speed and an oscillation speed, correspondingly to the position of the work in the rotating direction during machining, in order to uniformalize the machined amounts per unit circumferential length at the pre-machined surface of the work.

8. (Original) The lapping apparatus of claim 7,

wherein the pre-machined surface of the work is an outer peripheral surface of a cam-lobe portion of a camshaft.

9. (Original) The lapping apparatus of claim 8,

wherein the shoe driving unit includes an adjusting unit which adjusts the shoe pressing force, and

the controlling unit controls an operation of the adjusting unit so that the shoe pressing force upon machining an event region of the cam-lobe portion becomes larger than the shoe pressing force upon machining the other regions of the cam-lobe portion.

10. (Original) The lapping apparatus of claim 8,

wherein the controlling unit controls an operation of the rotational driving unit so that the work rotational speed upon machining an event region of the cam-lobe portion becomes slower than the work rotational speed upon machining the other regions of the cam-lobe portion.

11. (Original) The lapping apparatus of claim 8,

wherein the controlling unit controls an operation of the oscillation unit so that the oscillation speed upon machining an event region of the cam-lobe portion becomes faster than the oscillation speed upon machining the other regions of the cam-lobe portion.

12. (Original) The lapping apparatus of claim 7,

wherein the shoe comprises a concave shoe being held in a neck-swingable member and having a concave tip end portion which abuts on the pre-machined surface of the work at multiple locations via lapping film.

13. (Currently amended) A lapping method for lapping a work having a pre-machined surface while rotationally driving the work in a state where an abrasive-grained surface of a lapping film is pressed to the pre-machined surface by a shoe, comprising:

detecting a rotational position of the ~~rotating~~ work in a rotating direction thereof; and

controlling the pressing force of the shoe correspondingly to the position of the work in the rotating direction during machining.

14. (Original) The lapping method of claim 13,

wherein the pre-machined surface of the work is formed with an open holed portion,

the shoe comprises a first shoe pressing the abrasive-grained surface of the lapping film to the pre-machined surface and a second shoe pressing the abrasive-grained surface of the lapping film to a mouth base of the holed portion,

the rotational position detecting comprises detecting the position of the holed portion of the rotating work, and

the pressing force controlling comprises driving the second shoe between an operative position where the second shoe is pressed to the mouth base of the holed portion and an inoperative position where the second shoe is separated away from the mouth base of the holed portion correspondingly to the position of the holed portion during machining, so that the lapping to be conducted by pressing the lapping film to the rotating work by the second shoe is delimited to the vicinity of the mouth base of the holed portion.

15. (Original) The lapping method of claim 13,
wherein the pre-machined surface of the work is in a cross-sectionally non-circular arcuate shape, and

the lapping method further comprises:

applying oscillation along an axial direction of the work, to at least one of the work and the lapping film, and

variably controlling at least one of a shoe pressing force, a work rotational speed and an oscillation speed, correspondingly to the position of the work in the rotating direction during machining, in order to uniformalize the machined amounts per unit circumferential length at the pre-machined surface of the work.

16. (Currently amended) A lapping apparatus for lapping a work having a pre-machined surface, comprising:

a lapping film which includes a thin substrate having a surface provided with abrasive grains;

a shoe disposed at a back surface side of the lapping film;

shoe driving means for driving the shoe toward the work in order to press the abrasive-grained surface of the lapping film to the pre-machined surface of the work;

rotational driving means for driving the work rotationally;

detecting means for detecting a rotational ~~the~~ position of the ~~rotating~~ work in a ~~the~~ rotating direction thereof; and

controlling means for controlling the pressing force of the shoe driving means so as to drive the shoe correspondingly to the position of the work in the rotating direction during machining.

17. (New) The lapping apparatus of claim 2,

wherein the lapping film is inextensible and deformable.

18. (New) The lapping apparatus of claim 5,

wherein the lapping film is inextensible and deformable.

19. (New) The lapping apparatus of claim 7,

wherein the lapping film is inextensible and deformable.

20. (New) The lapping apparatus of claim 16,

wherein the pre-machined surface of the work is formed with an open holed portion,

the shoe comprises: a first shoe which presses the abrasive-grained surface of the lapping film to the pre-machined surface; and a second shoe which presses the abrasive-grained surface of the lapping film to a mouth base of the holed portion,

the shoe driving means drives the second shoe between an operative position where the second shoe is pressed to the mouth base of the holed portion and an inoperative position where the second shoe is separated away from the mouth base of the holed portion,

the detecting means detects the position of the holed portion of the rotating work,

the controlling means controls an operation of the shoe driving means so as to drive the second shoe toward the operative position or the inoperative position correspondingly to the position of the holed portion during machining, and

the lapping to be conducted by pressing the lapping film to the rotating work by the second shoe is delimited to the vicinity of the mouth base of the holed portion.

21. (New) The lapping apparatus of claim 16,

wherein the pre-machined surface of the work is formed with an open holed portion, and

the shoe includes a first shoe member constituting a hard shoe and a second shoe member constituting a soft shoe, the second shoe member being arranged at a location pressing the lapping film to a mouth base of the holed portion.

22. (New) The lapping apparatus of claim 16,

wherein the pre-machined surface of the work is in a cross-sectionally non-circular arcuate shape,

the lapping apparatus further comprises oscillation means for applying oscillation along an axial direction of the work, to at least one of the work and the lapping film, and

the controlling means variably controls at least one of a shoe pressing force, a work rotational speed and an oscillation speed, correspondingly to the position of the work in the rotating direction during machining, in order to uniformalize the machined amounts per unit circumferential length at the pre-machined surface of the work.

23. (New) The lapping apparatus of claim 1,

wherein the work is rotated around the longitudinal axis of the work.

24. (New) The lapping method of claim 13,

wherein the work is rotated around the longitudinal axis of the work.

25. (New) The lapping apparatus of claim 16,

wherein the work is rotated around the longitudinal axis of the work.